Original Article

# Reduced Sexual Activity in Pregnancy among Nigerian Women: Assessing the Associated Factors

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## Abstract

**Background:** Studies show reduced sexual activity during pregnancy. This study aims to evaluate the associated factors with a view to guiding current efforts at improving sexual activity during pregnancy. **Methods:** This is a cross-sectional study of 430 pregnant mothers attending Antenatal Care clinic at Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria, using questionnaires. Data were analyzed with STATA software, version 12.0 SE (Stata Corporation, TX, USA) utilizing multiple logistic regression model to evaluate the predictors of reduced sexual activity. **Results:** Reduced frequency of sex was reported by 331 (77.2%) of the women. Women, who belonged to the Anglican denomination (adjusted odds ratio [aOR] = 3.84; 95% confidence interval [CI]: 1.53–9.59) and those in whom the husbands were worried about the safety of sex in pregnancy (aOR = 2.24; 95% CI: 1.11–4.50), were more likely to report reduced sexual activity in pregnancy. Women, who had information about sex in pregnancy (aOR = 0.40; 95% CI: 0.24–0.60) and who were aged 30 years and above (aOR = 0.47; 95% CI: 0.25–0.89), were less likely to report reduced sexual activity in pregnancy. There was no influence by education, occupation, and social class or having had a discussion on sex in pregnancy with a physician. **Conclusion:** The Anglican Christian denomination and partner's worry about the safety of sex in pregnancy are the key drivers of reduced sexual activity in pregnancy. We recommend that reproductive health managers take cognizance of this finding in designing strategies to improve sexual activity in pregnancy.

**Keywords:** Marital discord, misconception, Nigeria, pregnancy, sexual activity

## Introduction

Pregnancy is associated with physiological, physical, and anatomical changes that impair sexual function and response among the women. The physical factors include increasing size of the abdomen, tiredness, and pelvic pain from subluxation of the pubic symphysis and sacroiliac joints. As pregnancy progresses, deep engagement of the fetal head and the associated stress incontinence and deep dyspareunia become issues.

The enlarged abdomen may also interfere with the favorite sex position of the couple and thus may impair sexual function and response. Vaginal discomfort leading to dyspareunia may become more pronounced as a result of changes in vaginal physiology in response to hormonal changes of pregnancy. Psychological factors such as anxiety about motherhood, stress of pregnancy as well as being afraid that sex may harm the baby can also impair sexual function during pregnancy.

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Evidence shows a high rate of reduced sexual activity among pregnant women mainly due to loss of libido, discomfort from the enlarging abdomen, myths and negative cultural norms as well as fear that sex may affect the baby or lead to miscarriage or preterm birth.[1-7] Fok *et al*.[1] in 2000 reported that 93% of Chinese pregnant women had an overall reduction in their sexual activities during pregnancy. Advanced maternal age and nulliparity were independent factors associated with the reduction of vaginal intercourse. They also reported that over 60% of the women, as well as more than 40% of their partners, had reduction in sexual desire and enjoyment during pregnancy while over 80% of the women and their partners

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worried about the adverse effects of sexual activity on the fetus. Only 9.4% discussed sexuality with their doctors and half of them raised this topic by themselves.

Similarly, Shojaa *et al*.[2] in 2009 reported that 73% of Iranian pregnant women had low libido during pregnancy. Pregnancy had affected the favorite position in most of the participants. Forty-five percent of them preferred the rear position. None of the women sought counseling or information from a doctor or midwife, due mainly to shyness in talking about sex. Similar findings were documented by Gałązka *et al*.[3] in 2015 and Staruch *et al*.[4] in 2016 among Polish pregnant women. In Nigeria, in line with global trends, overall sexual function is impaired during pregnancy at varying degrees mainly due to reduced libido; fear that sex may harm the baby and physical discomfort from anatomical and hormonal changes in pregnancy.[8-11]

The consequence of reduced sexual function and response by the pregnant women includes loss of intimacy between the couples, and in some cases, extramarital sexual relationships by the husbands.[12,13] Some of the factors that have been associated with reduced sexual activity in pregnancy include advanced maternal age,[2,14] low education,[14,15] parity,[15] unemployment,[15,16] long duration of marriage,[15] unwanted pregnancy,[17] and partner's worry about the safety of sex in pregnancy.[17]

Given the high rate of reduced sexual frequency in pregnancy in Nigeria, there is need to assess the associated factors to mount strategies to address the problem. Although some studies have been done in the country to evaluate the sexual practices and orientations of Nigerian pregnant women, they were all done in the past decades.[8-11] This study, therefore, is aimed at evaluating the current factors associated with reduced sexual activity during pregnancy.

### Aim

The aim of this study was to study the factors associated with reduced sexual activity during pregnancy among women attending the antenatal clinic in Nnewi, Southeast Nigeria

## Methods

This is a cross-sectional survey of 430 pregnant women attending antenatal care clinic at Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria carried out between February 1, 2016, and July 31, 2017. The study population comprised married pregnant women who presented for antenatal care at the hospital and gave consent for the study after adequate counseling. Those with complicated pregnancies, such as hypertensive disorders, diabetes mellitus, cardiac diseases in pregnancy as well as multiple pregnancies, were excluded from the study. The prevalence of poor perception of sex in pregnancy among pregnant women in Nnewi of 30.2% as reported by Adinma *et al*.[9] in Nnewi, Nigeria, was used as a reference value for the calculation of sample size. The minimum sample size for a statistically meaningful deduction was determined using the statistical formula of Fisher for calculating sample size (WHO):[18] $Z^2p\ (1 - p)/d^2$ where $N$ is the minimum sample size for a statistically significant survey, $Z$ is normal deviant at the portion of 95% confidence interval = 1.96 and $P$ is prevalence value of poor perception of sex in pregnancy among pregnant women in Nnewi (30.2%), and d is margin of error acceptable or measure of precision = 0.05. Using this formula, minimum sample size ($N$) =323. Therefore, the study of 323 women will give meaningful statistical deductions. However, the sample size was increased to 430 to improve the power of the study.

### Data collection

Consecutive pregnant women attending the antenatal clinic in Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria, were educated on the purpose, value, and the nature of the study and those that gave consent for the study were recruited. Data were collected by trained house officers and nurses with a semi-structured, validated questionnaire that has two sections – section on sociodemographic characteristics and section on sexual practices during pregnancy.

### Data analysis

The data collected was analyzed with STATA software, version 12.0 SE (Stata Corporation, TX, USA). Continuous variables were expressed as means and standard deviations and categorical variables as percentages. Logistic regression models were developed to explore the association of selected variables with reduced sexual frequency in pregnancy among the women. Three levels of analysis were done.

The first-level analysis was a descriptive analysis to determine the overall pattern of perceptions about sex in pregnancy and the prevalence of poor perceptions among the women. The second-level analysis was bivariate logistic regression analysis performed to assess the association between selected sociodemographic characteristics and reduced frequency of sex in pregnancy. $P < 0.20$ at 95% confidence was taken as statistically significant. The third-level analysis was a multivariate logistic regression analysis involving all the factors that were significantly associated with reduction of sexual activity in pregnancy at the second-level analysis which was considered as confounding variables using reduced sexual activity in pregnancy as the outcome variable of interest. The results are presented as odds ratios (OR) or adjusted ORs and their 95% confidence intervals (CI). $P < 0.05$ at 95% confidence interval was considered as statistically significant.

### Ethical considerations

Ethical approval for the study was obtained from Nnamdi Azikiwe University Teaching Hospital, Ethics Review Committee. The study protocol was made to confirm the ethical guidelines of the declaration of Helsinki (1975). As much as possible, the rights of the patients were fully protected in this research work. Only women who gave consent were recruited for the study. The patients were required to fill the informed consent form. As much as possible, confidentiality was maintained at all stages of the research work. Every

participating patient had the right to privacy and could withdraw from the study at any time after counseling. Patients also had the right to anonymity.

## Results

### Distribution by sociodemographic characteristics of the respondents

The age of the women ranged from 18 to 44 years with a mean age of 29.2 ± 4.7 years. Majority (96.0%; *n* = 413) of the women had at least secondary education and were in the second trimester (42.1%; *n* = 180). The parity ranged from 0 to 10. The other characteristics are as shown in Table 1.

### Distribution by sexual practices of the respondents

As shown in Table 2, the modal sexual frequency before and during the current pregnancy was 2–3 times weekly (22.6%; *n* = 97) and once weekly (28.4%; *n* = 122), respectively. Majority (51.4%; *n* = 221) of the women had no discussion on sex in pregnancy with their doctors. Reduced frequency of sex was reported by 331 (77.2%) of the women, and the main reasons given for reduced sexual activity were loss of libido (38.4%; *n* = 127), discomfort from enlarging abdomen (23.4%; *n* = 79), and fear that sex may lead to miscarriage or premature delivery (14.50%; *n* = 48).

**Table 1: Distribution by sociodemographic characteristics**

| Sociodemographic characteristics | Frequency (%) |
|---|---|
| Age category | |
| <20 | 3 (0.70) |
| 20-24 | 77 (17.91) |
| 25-29 | 168 (39.07) |
| 30-34 | 128 (29.77) |
| 35 and above | 54 (12.56) |
| Educational status | |
| Primary | 17 (3.95) |
| Secondary | 170 (39.53) |
| Tertiary | 243 (56.51) |
| Occupation | |
| Student | 94 (21.86) |
| Public servant | 104 (24.19) |
| Business | 138 (32.09) |
| Housewife | 94 (21.86 |
| Marital status | |
| Married | 425 (98.84) |
| Single | 1 (0.23) |
| Divorced | 4 (0.93) |
| Occupation of the husband | |
| Professional | 66 (15.35) |
| Skilled | 80 (18.60) |
| Unskilled | 284 (66.05) |
| Religion | |
| Catholic | 280 (65.12) |
| Anglican | 65 (15.12) |
| Pentecostal | 79 (18.37) |
| Islam | 6 (1.40) |
| Social class | |
| High | 134 (31.16) |
| Others | 296 (68.84) |

### Distribution by the factors associated with reduced sexual practices among the respondents

On univariate analysis, religion positively influenced sexual activity with the Anglicans being about 3 times more likely to have reduced sexual activities when compared to the Catholics (crude OR [cOR] = 3.29; 95% CI: 1.36–7.95) The other factors that were significantly associated with reduced sexual activities in pregnancy were being worried about the safety of sex in pregnancy (cOR = 1.69; 95% CI: 0.98–2.90) and also the husbands' worrying that sex is not safe in pregnancy (cOR = 1.97; 95% CI: 1.09–3.54). There was less likelihood of reduced sexual activity among women had information about sex in pregnancy (cOR = 0.5; 95% CI: 0.28–0.84); those aged <30 years (cOR = 0.47; 95% CI: 0.30–0.70 There was no influence of education, husband's occupation, and social class or have had a discussion on sex in pregnancy with a physician.

On multivariate analysis, women, who belonged to the Anglican denomination (aOR = 3.84; 95% CI: 1.53–9.59) and those in whom the husbands were worried about the safety of sex in pregnancy (aOR = 2.24; 95% CI: 1.11–4.50), were more likely to report reduced sexual activity in pregnancy. Those who have information about sex in pregnancy (aOR = 0.40; 95% CI: 0.24–0.60) and who were aged 30 years and above (aOR = 0.47; 95% CI: 0.25–0.89) showed significantly reduced likelihood for reduced sexual activity in pregnancy [Table 3].

## Discussion

This study found a high rate of reduced sexual activity mainly due to loss of libido, discomfort from the enlarging abdomen, and fear that pregnancy may lead to miscarriage or preterm delivery. Only very few of the women achieved orgasm all the time during sex and pregnancy had affected their favorite position for sex in a significant number of the women.

Women who belonged to the Anglican denomination were about 4 times more likely to have reduced sexual activity than their Catholic counterparts and also women in whom their husbands/male partners were worried about the safety of sex in pregnancy were about 2 times more likely to report reduced frequency of sex than the women in whom the husbands did not entertain such worries. The protective factors were advanced maternal age and having information about sex during pregnancy. There was no influence from parity, education, and employment status being worried about the safety of sex in pregnancy or having held discussions on sex in pregnancy with the doctor.

The high rate of reduced frequency for sex has been reported by many authors in the past.[1-7] This has negative implications for marital harmony as many reports show that men engage in extramarital sexual relationships when their wives are

**Table 2: Distribution by sexual practices among of Nigerian pregnant women**

| Sexual practices among Nigerian women | Frequency (%) |
|---|---|
| Do you have information about sex in pregnancy | |
| No | 110 (25.58) |
| Yes | 320 (74.42) |
| Have you discussed sex in pregnancy with your physician? | |
| No | 221 (51.40) |
| Yes | 209 (48.60) |
| Is sex safe in pregnancy? | |
| Do not know | 112 (26.11) |
| No | 154 (35.90) |
| Yes | 163 (38.00) |
| What is the frequency of sex currently? | |
| None at all | 27 (6.29) |
| Once a week | 266 (62.00) |
| 2-3 times a week | 97 (22.61) |
| >3 times a week | 39 (9.09) |
| Frequency of sex before pregnancy | |
| 2-3 times a week | 186 (43.36) |
| >3 times a week | 121 (28.21) |
| Once a week | 122 (28.44) |
| Reduced frequency of sexual activity | |
| Yes | 331 (77.16) |
| No | 98 (22.84) |
| Reasons for reduced sexual activity | |
| Lack of desire | 127 (38.37) |
| Barrier from enlarged abdomen | 79 (23.87) |
| Fear of miscarriage/premature delivery | 48 (14.50) |
| Concern that sex may harm the baby | 28 (8.46) |
| Pain during sex | 23 (6.95) |
| Husband does not like it | 22 (6.65) |
| Cultural reasons | 4 (1.21) |
| What is your favorite sex position now? | |
| Man on top | 137 (31.93) |
| Rear | 88 (20.51) |
| Sideways | 184 (42.89) |
| Woman on top | 20 (4.66) |
| Has pregnancy affected your favorite position | |
| No | 154 (35.90) |
| Yes | 275 (64.10) |
| Do you achieve orgasm? | |
| No | 181 (42.19) |
| Yes | 248 (57.81) |
| If yes, how frequently? | |
| Always | 47 (18.73) |
| Sometimes | 178 (70.92) |
| Rarely | 26 (10.36) |

pregnant. The common reasons for reduced sexual activity in pregnancy include loss of libido, physical barrier, and discomfort from the enlarging abdomen as well as fear that sex may harm the baby, cause miscarriage, or preterm birth.[2-6] Furthermore, the low rate of discussions of issues on sex in pregnancy by the physicians may also contribute to the reduced sexual activities in pregnancy as many pregnant women may still believe that sex is not safe in pregnancy.[1,2,19] Therefore, there is a need to include discussion on sexuality in pregnancy in the routine antenatal classes.

In this study, religion influenced sexual activity during pregnancy with the Anglicans showing the greatest likelihood for reduced sexual activities when compared to the Catholics. This is a little bit surprising as the Anglican Christian denomination is not generally known to oppose reproductive health issues in and outside of pregnancy. This finding indicates a need to include religious leaders in the sensitization program for proper sexual practices during pregnancy.

Partner's worry about the safety of sex during pregnancy was also significantly associated with increased rate of reduced frequency of sex in pregnancy. This has been reported previously in Turkey by Corbacioglu Esmer *et al*.[18] Worrying about the safety of sex during pregnancy especially when there are no contraindications to sex during pregnancy is an indication of lack of or limited knowledge about issues bordering on sexuality in pregnancy. It is surprising that the worry by the women themselves about the safety of sex during pregnancy did not significantly influence their sexual behavior in pregnancy, rather their husbands'/partners' concerns did. This may be as a result of the patriarchal nature of the African culture with the associated male dominance. Therefore, men should be included in the discussions on sex during pregnancy.

Younger maternal age was associated with reduced frequency of sex in pregnancy. This is in contrast to the report of Esmer *et al*.[17] among Turkey women who found an increased rate of reduced sexual activity among the older women. The younger women may be more afraid of the implications of engaging in sex in pregnancy as the first pregnancies are usually associated with both maternal and paternal anxieties. The older women, who have had more pregnancy experiences, are usually more confident about issues in pregnancy and are also more likely to have received counseling about the safety of sex during pregnancy.

We found that women who have information about sex during pregnancy were 2 times less likely to have reduced sexual activity during pregnancy. It has been noted severally that most pregnant women do not receive counseling on the issues of sex in pregnancy from their physicians.[1,2,19] Most doctors do not routinely discuss issues bordering on sexual activities with their antenatal clients. Fok *et al*. reported that only 9.4% of the pregnant women in China had discussions on sexuality in pregnancy with their doctors, and half of the times, the issue was raised by the women themselves.[1]

Similarly, Bartellas *et al*.[19] found that among Canadian pregnant women, only 29% had discussed sex in pregnancy with their physicians and the discussions were initiated by the women in 49% of the cases.[19] They reported that 76% of all those who had not discussed issues on sexuality with their physicians felt that it should be discussed. In this study, 48.6% of the women

**Table 3: Logistic regression analysis for factors associated with reduced sexual activity in pregnancy among pregnant women in Nnewi, Nigeria**

| Sociodemographic and other predictor variables | Reduced sexual activity in pregnancy | | | | | |
|---|---|---|---|---|---|---|
| | Bivariate analysis | | | Multivariate analysis | | |
| | cOR | 95% CI | *P* | aOR | 95% CI | *P* |
| Age | | | | | | |
| <30 years | 1.00 | Reference | N/A | 1.00 | Reference | N/A |
| 30 years and above | 0.47 | 0.30-0.74 | <0.001* | 0.40 | 0.24-0.65 | <0.001* |
| Education | | | | | | |
| Primary | 1.00 | Reference | N/A | | | |
| Secondary | 0.40 | 0.09-1.84 | 0.24 | | | |
| Tertiary | 0.47 | 0.10-2.10 | 0.32 | | | |
| Occupation | | | | | | |
| Student | 1.00 | Reference | N/A | | | |
| Public servant | 1.37 | 0.71-2.60 | 0.34 | | | |
| Business | 1.26 | 0.69-2.33 | 0.44 | | | |
| House wife | 1.36 | 0.69-2.66 | 0.37 | | | |
| Husbands occupation | | | | | | |
| Professional | 1.00 | Reference | N/A | 1.00 | Reference | N/A |
| Skilled | 0.49 | 0.22-1.07 | 0.07 | 0.54 | 0.23-1.27 | 0.16 |
| Unskilled | 0.81 | 0.41-1.60 | 0.54 | 1.05 | 0.51-2.17 | 0.89 |
| Religion | | | | | | |
| Catholic | 1.00 | Reference | N/A | 1.00 | Reference | N/A |
| Anglican | 3.29 | 1.36-7.95 | <0.01* | 3.84 | 1.53-9.59 | <0.01* |
| Pentecostal | 0.87 | 0.49-1.52 | 0.62 | 0.80 | 0.43-1.46 | 0.48 |
| Islam | - | - | - | - | - | - |
| Parity | | | | | | |
| Low | 1.00 | Reference | N/A | | | |
| High | 1.11 | 0.69-1.76 | 0.66 | | | |
| Social class | | | | | | |
| Low | 1.00 | Reference | N/A | | | |
| High | 0.81 | 0.49-1.33 | 0.40 | | | |
| Information about sex in pregnancy | | | | | | |
| No | 1.00 | Reference | N/A | 1.00 | Reference | N/A |
| Yes | 0.50 | 0.28-0.89 | 0.02* | 0.47 | 0.25-0.89 | 0.02* |
| Had discussion on sex in pregnancy with her physician | | | | | | |
| No | 1.00 | Reference | N/A | | | |
| Yes | 1.22 | 0.78-1.91 | 0.38 | | | |
| Worried about the safety of sex in pregnancy | | | | | | |
| No | 1.00 | Reference | N/A | 1.00 | Reference | N/A |
| Yes | 1.69 | 0.98-2.90 | 0.04* | 1.12 | 0.58-2.15 | 0.74 |
| Partner worried about the safety of sex in pregnancy | | | | | | |
| No | 1.00 | Reference | N/A | 1.00 | Reference | N/A |
| Yes | 1.97 | 1.09-3.54 | 0.02* | 2.24 | 1.11-4.50 | 0.02* |

**P*-value < 0.001. cOR: Crude odds ratio, aOR: Adjusted odds ratio, CI: Confidence interval, N/A: Not available

have had discussions on sex in pregnancy with their doctors, and in 40.7% of cases, the discussions were initiated by the women. The reasons why doctors do not routinely discuss issues on sexuality with the antenatal mothers may relate to the cultural norms that do not encourage open and free discussions on sexuality within so many societies. It may also be a result of deficient training in the medical school as sexuality in pregnancy does not feature in the curriculum for medical training and as such, the doctors unlikely to be knowledgeable about the safety or otherwise of sex in pregnancy.

There is a need, therefore, to sensitize the doctors on the safety of sex in pregnancy and to include sexuality in pregnancy in the obstetric curriculum for medical undergraduates. Routine antenatal classes should feature discussions on sex in pregnancy regularly. Studies show that women are often times shy to initiate discussions concerning sex in pregnancy even when they felt there is a need to do so.[1,2,19] Among Canadian women, 76% of the women who had not discussed sex with their doctors could not initiate the discussion even when felt there was a need to address the issues. Similarly, Babazadeh *et al*.[6] reported that

only 24.2% of women in Iran sought and received information on the advisability of sexual activity during pregnancy from their physicians or midwives, and 75.8% were not comfortable starting the conversation.[4] It is important to clarify and correct all misconceptions and myths about sex in pregnancy to enable the couple have a good knowledge about sex in pregnancy and therefore improve their sexual functioning during pregnancy.

We did not find any relationship between reduced sexual activity and education among the studied women. This is in contrast to the accounts of Eryilmaz *et al*.[15] in Turkey and Abouzari-Gazafroodi *et al*. in Iran[14] who reported increased rate of reduced frequency of sex in pregnancy among women with lower education. Educated women are more likely to have information about sex during pregnancy as well as other maternal health services while those with low education are more susceptible to the negative influences of cultural practices and myths. Our finding may relate to the fact that almost all our studied women were literate (literacy level = 96.0%). Therefore, it might have been difficult to test the association of educational level with reduced sexual activity during pregnancy.

## Conclusion

There was a high rate of sexual dysfunction among the studied pregnant women due largely to the loss of libido. The factors that significantly influenced sexual dysfunction in pregnancy were age, religion, knowledge about sex in pregnancy, and partner's worry about the safety of sex in pregnancy. There is a need for couple counseling on issues pertaining to sexual activity during pregnancy

### Limitations

This is a hospital-based study and as such the findings may not be generalizable.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

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